



## PAPER SHREDDER CUTTING TOOL HAVING MULTIPLE CUTTING EDGES

### BACKGROUND OF THE INVENTION

#### (a) Field of the Invention

- 5      The present invention relates to paper shredders, and more particularly to a paper shredder cutting tool having multiple cutting edges, whereby the multiple cutting edges are defined on a pair of blades making up cutting blades, and so configured so as to form a compact assembly, thereby realizing minimum distance between mutually adjacent cutting edges,
- 10     accordingly quickly and with greater effectiveness shredding a multitude of pieces of paper or cardboard at one time.

#### (b) Description of the Prior Art

Referring to FIG. 1, which shows a conventional paper shredder cutting tool constructed to include a pair of cylindrical rotary cutters 1 and 1', which are configured to rotate in opposite directions to each other, and further includes an electric motor and an internal gear drive mechanism configured to drive the cutting tool thereof. Each cylindrical rotary cutter includes a polygonal shaft 2 (a hexagonal shaft is depicted in FIG. 1), and a plurality of cutting blades 4 are mounted on the shaft 4. A spacer 6 is configured between each pair of adjacent cutting blades 4, thus partitioning the cutting blades 4 therebetween, and thereby allowing the cutting blades 4 to be assembled and mounted in an interleaving fashion on the two cylindrical rotary cutters 1 and 1'. The traditional cutting blade 4 is provided with a central aperture shaped to correspond to the shaft 2, and 3 to 4 equiangular spaced cutting edges 8 are further defined on a

circumferential periphery of the cutting blade 4 thereof.

Although the aforementioned traditional paper shredder cutting tool can achieve a degree of effectiveness in shredding paper, however, the traditional paper shredder cutting tool still has serious shortcomings as 5 described hereafter:

1. Spacing between two adjacent cutting edges is too great, and thereby restricts what paper can be shredded, and thus limits shredding to 1 to 2 sheets of paper at one time, and is unable to shred thicker sheets of paper (or cardboard).
- 10 2. The cutting tool shreds the paper into thin strips, and is unable to shred the paper into small bits, and thus comparatively quickly fills up a shredded paper can of the traditional paper shredder.
3. Speed of shredding the paper is comparatively slow, and remnants of shredded paper easily remain stuck in the cutting blades, and apt to cause 15 malfunction of the traditional paper shredder.

#### **SUMMARY OF THE INVENTION**

Therefore, a primary objective of the present invention is to provide a cutting blade configured from a pair of blades each defined with a plurality of cutting edges, thereby assembling a compact arrangement of cutting 20 edges, and realizing a small spacing between adjacent cutting edges to be reduced to a minimum, and therefrom forming a fast and powerful cutting tool. The present invention actualizes practicability of allowing several tens of sheets of paper or cardboard to be simultaneously fed into the paper shredder and still be easily pulled and dragged into the rotary cutters and 25 shredded into small bits thereof.

To enable a further understanding of the said objectives and the technological methods of the invention herein, the brief description of the drawings below is followed by the detailed description of the preferred embodiments.

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### **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 shows an elevational view of a conventional paper shredder cutting tool.

FIG. 2 shows a schematic view according to the present invention.

FIG. 3 shows a top view according to the present invention.

10 FIG. 4 shows a partial exploded elevational view according to the present invention.

FIG. 5 shows a side view of assembled cutting blades according to the present invention.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

15 Referring to FIGS. 2 and 3, which show a paper shredder of the present invention comprising an electric motor 100, which drives and thereby rotates a decelerator 200 comprising a number of gears. The decelerator 200 axially connects to shafts of two cutting tools, the two cutting tools 20 being constructed to include two cylindrical rotary cutters 10 and 10'. Each of the rotary cutter 10 and 10' are mounted on a hexagonal shaft 12, and a plurality of cutting blades 14 are securely mounted on the shafts 12. A spacer 16 is configured between each pair of adjacent cutting blades 14, thus partitioning the cutting blades 14 therebetween, and thereby allowing 25 the cutting blades 14 to be assembled and mounted in an interleaving

fashion on the two cylindrical rotary cutters 10 and 10'. Moreover, each of the cutting blades 14 is further constructed from a pair of blades. The present invention is primarily characterized in that:

11 to 21 cutting edges 18 are respectively defined on the pair of blades 5 of the cutting blades 14, thereby realizing minimum distance between mutually adjacent cutting edges 18 (as depicted in FIG. 5), and thus time paper comes into contact with the cutting edges 18 is very short, accordingly the cutting blades 14 slice the paper more quickly and with greater effectiveness. Furthermore, referring to FIG. 2, which shows the 10 cutting blades 14 of the two cylindrical rotary cutters 10 and 10' interleavingly mounted so as to form a compact assembly of blade edges, such that when a sheet of paper is fed between the two cutting blades 14, the sheet of paper is first pulled and dragged downwards and then shredded. Multiple sheets of paper or cardboard are also easily shredded into small 15 pieces. The paper shredder cutting tool according to the present invention can simultaneously shred multiple sheets of paper when fed into the paper shredded at one time, thereby economizing on time required to shred the paper.

It is of course to be understood that the embodiments described herein is 20 merely illustrative of the principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.